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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,491	08/03/2000	Takao Maeda	5576-131	9818

826 7590 12/20/2002

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EXAMINER

WILKINS III, HARRY D

ART UNIT PAPER NUMBER

1742

DATE MAILED: 12/20/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/631,491

Applicant(s)

MAEDA ET AL.

Examiner

Harry D Wilkins, III

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,12,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1, 5-7 and 12-17 are pending, with claims 13-15 being withdrawn from consideration as being drawn to a non-elected invention.
2. The rejection under 35 USC 112, 2nd paragraph has been withdrawn in view of the amendment filed 30 September 2002.
3. The rejection under 35 USC 103 based on the Hayashida reference has been withdrawn in view of the amendment filed 30 November 2002.
4. The rejection under 35 USC 103 based on the Kaneko reference has been withdrawn in view of the amendment filed 30 November 2002.

Continued Examination Under 37 CFR 1.114

5. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 30 September 2002 has been entered.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 5-7, 12, 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara et al (JP 60-250557 A).

Yanagihara et al teach (see abstract) a hydrogen storage alloy that has the general formula $\text{LaNi}_x\text{Co}_y\text{M}_z$. M is selected from a list that includes Mg, $1.5 < x < 4$, $3 < x+y < 5.5$ and $4 < x+y+z < 5.5$. This composition has ranges that include 34.57 wt% La, and overlap the ranges of Co and Mg.

Yanagihara et al fail to meet the claimed range of La. However, the composition range of La would have been obvious because the prior art range is close enough (34.57 wt% vs. 33 wt%) that one skilled in the art would have expected it to have the same properties, see MPEP 2144.05.

Regarding claim 5, Yanagihara et al teach (see English abstract) that the M metal can be selected from "at least one of" a list of metals. Among the metals on this list is V. The disclosure indicates that mixtures of metals for the formula for M are within the scope of Yanagihara et al. Therefore, Yanagihara et al teach adding V to the hydrogen storage alloy even though no specific example contains Mg while also containing V.

Regarding claims 6, 7 and 17, with respect to the property of crystal lattice constants, the alloy composition taught by Yanagihara et al overlaps the alloy composition recited in the claims. The method of making described by Yanagihara et al (see page 296, upper right, orally translated by USPTO) includes arc melting in an Ar atmosphere followed by casting to form an ingot. This method is substantially similar to the method of the present invention. Therefore, one of ordinary skill in the art would

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have expected that the products taught by the reference would have the same crystal lattice constants as claimed because the alloy has an nearly identical composition and is made by a substantially similar method. The selected alloy of Yanagihara et al contains 6 wt% Co.

"Where the claimed and prior art products are identical or substantially identical in structure or composition or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing they are not.' In re Spada, 15 USPQ2d 1655, 168 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best 195 USPQ 430, 433 (CCPA 1977)." See MPEP 2112.01

Regarding claim 12, Yanagihara et al teach a hydrogen storage alloy which is based on the formula $\text{La}_u\text{R}_v\text{Mg}_w\text{Ni}_x\text{Co}_y\text{M}_z$, where v is 0 and z is 0. $(x+y+z)/(u+v)$ for the selected composition (as above) is 4.409.

Regarding claim 16, Yanagihara et al teach (see English abstract) that a battery is made from an electrode that is made from the hydrogen storage alloy disclosed therein.

8. Claims 1, 5-7, 12, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shindo et al (JP 07-057769).

Shindo et al teach (see abstract) a hydrogen storage alloy that has the general formula LmAx . Lm is selected from a list that includes La and A is at least one of Ni and Co. The alloy also contain up to 0.03 wt% Mg. Shindo et al further teach (see paragraph 0014) a composition: $\text{LmNi}_{4.2}\text{Co}_{0.4}\text{Mn}_{0.3}\text{Al}_{0.3}$. When Lm is selected as La, the composition contains 32.03 wt% La and 5.43 wt% Co. With the addition of 0.03 wt% Mg, this alloy is within the claimed range.

Regarding claim 5, Shindo et al teach (see English abstract) that the V may be added at 0.04 wt% of less.

Regarding claims 6, 7 and 17, with respect to the property of crystal lattice constants, the alloy composition taught by Shindo et al overlaps the alloy composition recited in the claims. Therefore, one of ordinary skill in the art would have expected that the products taught by the reference would have the same crystal lattice constants as claimed because the alloy has an identical composition.

Regarding claim 12, Shindo et al teach a hydrogen storage alloy which is based on the formula $\text{La}_u\text{R}_v\text{Mg}_w\text{Ni}_x\text{Co}_y\text{M}_z$, where v is 0 and z is 0.6. $(x+y+z)/(u+v)$ for the selected composition (as above) is 5.2.

Regarding claim 16, Shindo et al teach (see English abstract) that a battery is made from an electrode that is made from the hydrogen storage alloy disclosed therein.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 5-7, 12, 16 and 17 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 703-305-9927. The examiner can normally be reached on M-Th 6:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for

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the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Harry D Wilkins, III
Examiner
Art Unit 1742

hdw
December 19, 2002

ROY KING 
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700